

LISTING OF THE CLAIMS:

1-10. (Canceled)

11. (Previously Presented) A flexible bag assembly comprising:

at least first and second compartments;

a first predetermined volume of an aqueous sodium bicarbonate component solution, said first predetermined volume being provided in at least one of the at least first and second compartments; and

a second predetermined volume of an aqueous acid component solution, said second predetermined volume being provided in at least another of the at least first and second compartments, said aqueous acid component solution having an amount of dissolved carbon dioxide, the aqueous sodium bicarbonate component solution and the aqueous acid component solution being mixable together to obtain a peritoneal dialysis, hemodialysis, or replacement fluid, wherein the amount of dissolved carbon dioxide in the aqueous acid component solution is such that a partial pressure value of said carbon dioxide exhibited by said aqueous acid component solution substantially matches a partial pressure value of carbon dioxide exhibited by said aqueous sodium bicarbonate component solution.

12. (Previously Presented) A flexible bag assembly according to claim 11, wherein said aqueous acid component solution has an amount of dissolved carbon dioxide, a concentration of said dissolved carbon dioxide in the aqueous acid component solution being from 0.5 to 30 mmol/l.

13. (Previously Presented) A flexible bag assembly according to claim 12, wherein the concentration of said dissolved carbon dioxide is from 5 to 15 mmol/l.

14. (Canceled)

15. (Previously Presented) A flexible bag assembly according to claim 11, wherein said aqueous acid component solution include electrolytes, glucose, acid and said dissolved carbon dioxide within the range of concentrations, pH, and pCO₂ values as follows:

Sodium	0 to 4000	mmol/l
Potassium	0 to 1000	mmol/l
Calcium	0 to 50	mmol/l
Magnesium	0 to 30	mmol/l
Chloride	0 to 5500	mmol/l
Glucose	0 to 2000	mmol/l
Acid	0 to 100	mmol/l
Dissolved CO ₂	0.5 to 30	mmol/l
pH	2 to 5	
pCO ₂	10 to 675	mmHg

16. (Previously Presented) A flexible bag assembly according to claim 15, wherein the concentration of said dissolved carbon dioxide is from 5 to 15 mmol/l.

17. (Previously Presented) A flexible bag assembly according to claim 11, wherein said aqueous acid component solution includes electrolytes, glucose, acid, and said dissolved carbon dioxide within the range of concentrations, pH, and pCO₂ values as follows:

Sodium	0 to 400	mmol/l
Potassium	0 to 5	mmol/l
Calcium	0 to 17.5	mmol/l
Magnesium	0 to 7.5	mmol/l
Chloride	0 to 500	mmol/l
Glucose	0 to 3000	mmol/l
Acid	0 to 100	mmol/l
Dissolved CO ₂	0.5 to 30	mmol/l
pH	2 to 5	
pCO ₂	10 to 760	mmHg
Water		

18. (Previously Presented) A flexible bag assembly according to claim 17, wherein the concentration of dissolved carbon dioxide is from 5 to 15 mmol/l.

19. (Previously Presented) A flexible bag assembly according to claim 11, wherein said flexible bag assembly is over-wrapped in a flexible, gas-impermeable plastic material.

20. (Previously Presented) A process for preparing an aqueous acid component solution, said aqueous acid component solution being provided in at least a first or second compartment of the flexible bag assembly of claim 11, the process comprising the steps of:

- determining a carbon dioxide partial pressure value exhibited
- by an aqueous bicarbonate component solution;
- preparing an aqueous acid component solution; and

introducing carbon dioxide into the prepared aqueous acid component solution to obtain an aqueous acid component solution having a carbon dioxide partial pressure value substantially matching said carbon dioxide partial pressure value determined for said aqueous bicarbonate component solution.